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TITLE: Method for producing **lubricant detergents**
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PATENT INFORMATION:

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

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AB The invention is a process for producing alkaline earth metal salicylates for use as **lubricant detergents** and to compns. prepared by the process. The process comprises two steps. Step 1 is the alkylation of salicylic acid is conducted using C 14 or greater linear α -olefins to produce alkyl salicylic acids in com. acceptable yields. The alkylation conditions produce predominately mono-substituted para alkyl salicylic acids that are oil soluble Step 2 is the oil soluble acid is subsequently neutralized and overbased by carbonation of lime using CO₂ in the presence of a promoter and a surfactant. The reaction mixture after overbasing is filtered and solvents are removed by distillation Alternatively, alkyl salicylic acid can be reacted with a previously overbased alkaline earth sulfonate, e.g., calcium sulfonate, to produce alkaline earth salicylate salts comprising varying percentages of dispersed alkaline earth carbonate salts. In this method, no filtration of the end product is required, and, thus, it is com. preferred.

IC ICM C07C069-88

NCL 560071000

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

ST **lubricant detergent** additive alk earth salicylate

IT Lubricating oils

(basestock; **lubricant detergents** containing alkaline earth metal salicylates)

IT Sulfonic acids, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(calcium salts; **lubricant detergents** containing alkaline earth metal salicylates)

IT Lubricating oil additives

- (detergents; **lubricant detergents** containing alkaline earth metal salicylates)
- IT Surfactants
(**lubricant detergents** containing alkaline earth metal salicylates)
- IT Lime (chemical)
Naphtha
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lubricant detergents** containing alkaline earth metal salicylates)
- IT Alkaline earth metals
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(salicylates; **lubricant detergents** containing alkaline earth metal salicylates)
- IT Alkenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(α -, C₁₄; **lubricant detergents** containing alkaline earth metal salicylates)
- IT 75-75-2, Methanesulfonic acid
RL: CAT (Catalyst use); USES (Uses)
(**lubricant detergents** containing alkaline earth metal salicylates)
- IT 471-34-1, Calcium carbonate, processes
RL: FMU (Formation, unclassified); REM (Removal or disposal); FORM (Formation, nonpreparative); PROC (Process)
(**lubricant detergents** containing alkaline earth metal salicylates)
- IT 69-72-7DP, Salicylic acid, alkaline earth metal salts
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(**lubricant detergents** containing alkaline earth metal salicylates)
- IT 67-56-1, Methanol, reactions 69-72-7, Salicylic acid, reactions 112-88-9, 1-Octadecene 124-38-9, Carbon dioxide, reactions 629-73-2, 1-Hexadecene 1120-36-1, 1-Tetradecene 1599-67-3, 1-Docosene 3452-07-1, 1-Eicosene 10192-32-2, 1-Tetracosene
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lubricant detergents** containing alkaline earth metal salicylates)